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10/571,866	03/14/2006	Sarah Veelaert	19790-007US1 CER03-0011	6957
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EXAMINER QIAN, YUN				
ART UNIT 1793		PAPER NUMBER		
NOTIFICATION DATE 11/20/2009		DELIVERY MODE ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PATDOCTC@fr.com

**Office Action Summary****Application No.**

10/571,866

**Applicant(s)**

VEELAERT ET AL.

**Examiner**

YUN QIAN

**Art Unit**

1793

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 August 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 18-28 and 30-42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 18-28, 30-42 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/GS/US)  
Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Status of Claims***

Claims 18-28 and 30-42 are remained for examination. Claims 29 and 43-45 are cancelled. Claims 18, 32, 35 and 37 are amended.

### ***Previous Grounds of Rejection***

Regarding claims 18, 20-22, 25-26, 30-31, 38, 40 and 43-45, the rejection under 35 U.S.C. 102(b) as being anticipated by Fitt et al. (5,385,608) stands.

Regarding claims 18-23, 25-26, and 40-41, the rejection under 35 U.S.C. 102(b) as being anticipated by Gabel et al. (3,607,393) stands.

Regarding claims 18-23, 25-27, 32, 35 and 37, the rejection under 35 U.S.C. 103(a) as being unpatentable over Russell et al. (Journal of Cereal Science 5, 1987, 83-100) stands. There was a typographical error in the Office Action issued on April 28, 2009 (page 8). These claims were rejected under 35 U.S.C. 103(a), not 35 U.S.C. 102(b). Thanks to Mr. Parsons who pointed out this error.

Regarding claims 18-38 and 40-41, the rejection under 35 U.S.C. § 103(a) as being unpatentable over Wasserman et al. (U.S. 5,959,102) in view of Kettlitz et al. (U.S. 6,235,894) stands. Rejection with respect to claim 43-45 is moot as these claims have been cancelled.

Regarding claims 39-40 and 42 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Wasserman et al. in view of Kettlitz et al., further in view of Wongsuragrai et al. (EP 0823439) stands.

***Modified Grounds of Rejection***

The ground(s) of rejection, below, is made as follows with respect to the currently amended claims 18, 32, 35 and 37, and these directly or indirectly dependant claims. It is substantially the same as generally set in the office action mailed on April 28, 2009.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 18, 20-22, 25-26, 30-31, 38 and 40 are rejected under 35 U.S.C. 102(b) as being anticipated by Fitt et al. (5,385,608).

Regarding claim 18, Fitt et al. teaches a method of purifying raw starch comprising steps of (a) treated with hypochlorite (a reactant), (b) removing protein and oxidizing some of the hydroxyl groups, (c) recovering the purified starch (abstract and Fig.1).

The Examiner realizes that not all physical properties, such as improved viscosity/stability, improved setting properties, etc., are stated in the reference. Since the reference teaches all of the claimed reagents and composition, as well as process

conditions, the physical properties of composition would necessarily follow as set forth in MPEP 2112.01(II).<sup>1</sup>

Regarding claims 20-22 and 25-26, the process taught by Fitt et al. is performed at 47°C, pH 6.4 for 30 min in presence of hypochlorite and alkaline solution. It meets the claimed limitations (col.8, lines 4-60).

Regarding claims 30-31, the process taught by Fitt et al. is used for treatment of waxy corn, corn and various cereals (col.4, lines 9-13).

Regarding claim 38, the purified starch taught by Fitt et al. are characterized by a protein content of <0.15%wt, and hydroxyl group oxidized to a level about 0.03%-0.5%wt. Protein content can be reduced further by washing with water (abstract).

Regarding claim 40, the modified starch taught by Fitt et al. are suitable for medical, consumer and industrial applications such as lubricating gloves (abstract).

Claims 18-23, 25-26, and 40-41 are rejected under 35 U.S.C. 102(b) as being anticipated by Gabel et al. (3,607,393).

Regarding claim 18, Gabel et al. teaches a method of purifying raw starch comprising steps of (a) treated with sodium hypochlorite (a reactant), (b) oxidizing with hydrogen peroxide to discharge any residual halogen content, (c) recovering the purified starch (abstract, col.2, line 37-38, col. 3, lines 25-73).

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<sup>1</sup> "Products of identical chemical composition can not have mutually exclusive properties." A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present. In re Spada, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990)

The Examiner realizes that not all physical properties, such as improved viscosity/stability, improved setting properties, etc., are stated in the reference. Since the reference teaches all of the claimed reagents and composition, as well as process conditions, the physical properties of composition would necessarily follow as set forth in MPEP 2112.01(II).<sup>1</sup>

Regarding claim 19, the amount of chlorine taught by Gabel is 0.05-5.50% as per applicant claim 19 (col. 2, line54-55).

Regarding claims 20-23 and 25-26, the process taught by Gabel et al. is performed at about 20-60 °C, pH 1-8 for 5-45 min in presence of alkaline metal hypochlorite solution and hydrogen peroxide. It meets the claimed limitations (abstract, col.2, lines 10-66).

Regarding claims 40-41, the process taught by Gabel et al. is used for preparing bread (abstract).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 18-23, 25-27, 32, 35 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Russell et al. (Journal of Cereal Science 5, 1987, 83-100).

Regarding claims 18-23, 25-27, 32, 35 and 37, Russell et al. teaches a method of treating native starch with (1) 300 ppm (0.3 g/Kg based on the weight of the starch) of chlorine gas at 22°C for 18 hrs, and (2) treating the resulted chlorinated starch with Pronase (a protease) at pH 8.3 (page 85 Figure 1, and page 87, 2<sup>nd</sup> and 3<sup>rd</sup> paragraphs). The Examiner realizes that not all physical properties, such as improved viscosity/stability, improved setting properties, etc., are stated in the reference. Since the reference teaches all of the claimed reagents (active chlorine and protease) and composition, as well as process conditions (temperature, pH, time, amount of chlorine), the physical properties of composition would necessarily follow as set forth in MPEP 2112.01(II).<sup>1</sup>

The apparent difference between the applicant's claims 18, 32, 35 and 37 and the teaching from the reference is the order of addition of additives (chlorine) and protease. However, the change in sequence of adding ingredients would have been obvious to one of ordinary skill in the art absent evidence to the contrary. The following is a quotation of MPEP 2144.04 which forms the basis for the rejection: "In re Burhans, 154 F.2d 690, 69 USPQ 330 (CCPA 1946) (selection of any order of performing process steps is prima facie obvious in the absence of new or unexpected results); In re Gibson, 39 F.2d 975, 5 USPQ 230 (CCPA 1930) (Selection of any order of mixing ingredients is prima facie obvious.)".

Claims 18-28, 30-38 and 40-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wasserman et al (US 5,959,102) in view of Kettlitz et al (US 6,235,894).

Regarding claims 18, 26-28, 32-35 and 37, Wasserman et al. teaches a process of improving the starch's organoleptic properties by treating raw starch with metallo-endopeptidase thermolysin (Abst. and col. 1, lines 33-37 and col.8, line 12). However, Wasserman does not specifically teach a method of making a stabilized starch with a hypohalite and hydrogen peroxide.

Kettlitz et al. teaches of making the heat stable starches by reacting starch with active chlorine under alkaline conditions and also discloses the isolation of the treated starch with washing and drying (col. 2, lines 47-62, col. 6, lines 10-14).

Therefore, it would have been obvious to one of ordinary skill in the art at the time invention was made to combine the method of making a stabilized starch of Kettlitz with the process of improving starch's organoleptic properties taught by Wasserman, because the stabilized low-protein starch has wide applications in food and pharmaceutical industries (col.5, lines 1-5). Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

Regarding claims 19, 32, and 35, Kettlitz discloses a method of making purified starch in the presence of active chlorine between 100 to 4000ppm which is encompassed by or encompasses the claimed ranges (col.4, lines 25-29).



Regarding claims 20, 21, 32, 34 and 35, the bleaching temperature ( $10^{\circ}\text{C}$  to  $55^{\circ}\text{C}$ ) taught by Kettlitz '894 (col. 4, line 36) anticipates or is encompassed by the claimed ranges.

Regarding claims 22-24, 32-33, and 35-36, the pH value (between 7.5 and 11.5) taught by Kettlitz '894 (col. 4, line 29) anticipates or is encompassed by the claimed ranges.

Regarding claims 25, 32 and 35, Kettlitz '894 discloses the bleaching required up to 5 hours (col. 4, lines 35-36), which is encompassed by the claimed range.

Regarding claims 30 and 31, Wasserman discloses treating corn starch (co. 9, lines 43-44) and Kettlitz discloses using waxy maize as raw starch for purification as instantly claimed (col.3, lines 48-52).

Regarding claims 32 and 35, Wasserman '102 teaches treating starch having a protein content of  $(0.24 \pm 0.03) \%$  and  $(0.33 \pm 0.03) \%$  (Table 1, col. 13 lines 11-19), which is encompassed by or overlaps the claimed ranges of protein contents.

Regarding claims 38, 40 and 41, Wasserman discloses using these treated starches in food products (co. 9, lines 43-44). Although Wasserman does not specially disclose the composition of stabilized starch in sauces, it would have been obvious for one of ordinary skill in the art at the time invention was made to adjust the composition of stabilized starch, including the claimed ranges, based on the desired thickeners for sauces.

Claims 39-40 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wasserman et al (US 5,959,102) in view of Kettlitz et al (US 6,235,894) as applied to Claim 18, further in view of Wongsuragrai et al (EP 0823439).

Regarding claims 39-40 and 42, as discussed above, Kettlitz et al. teaches incorporating the purified starches into food products (col.5, lines 1-5). Furthermore, Wongsuragrai et al. points out the low-protein and free-flowing starch can be used as compression filler in tablet (page 2, lines 33-34). The composition of low-protein starch powder are varied, depends on the sources of starches and they are overlap with instantly claims (page 4 the Table and claims 1-7). Therefore, a tablet made from the starch according to the combined references of Wasserman and Kettlitz would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as suggested by Wongsuragrai et al (page 2, lines 33-34).

### ***Response to Arguments***

#### ***With regards to the previous Grounds of Rejection***

Regarding 18, 20-22, 25-26, 30-31, 38, 40 and 43-45 are rejected under 35 U.S.C. 102(b) as being anticipated by Fitt et al., and claims 18-23, 25-26, and 40-41 rejected under 35 U.S.C. 102(b) as being anticipated by Gabel et al., applicants argue that neither Fitt et al. nor Gabel et al. disclose a separate bleach step, even though applicants recognize the hypochlorite treatment causes a whitening of the product (Remarks, pages 2-3).

This is not persuasive because hypochlorites are well recognized not only as bleaching agents, and due to their low stability, they are very strong oxidizing agents. Therefore, hypochlorite taught by Fitt and Gabel et al. plays dual roles, a reagent for oxidizing starch (applicant's treating step) and also bleaching the starch at the same time (applicant's bleaching step). As the prior arts anticipate the claimed invention, the rejection stands.

Regarding these claims rejected under 35 U.S.C.103 (a), applicants argue that the claimed process improves the properties of the starch (Remarks, pages2-4). Applicants assert the experimental condition of the control run in the instant application (Example 1, [0075]-[0183]) is the same as the prior art by Kettlitz et al. (Example 1, col.6, and lines 1-25).

As discussed in the last office action mailed on April 28, 2009 (page 7), this is not persuasive because the example taught by Kettlitz et al. is quite different from the control run of the instant application, For example, the concentration of active chloride and pH value of the present application are not same as teachings of Kettlitz et al. Therefore, applicants have not fully demonstrated a surprising or unexpected difference in stability by comparing with the prior art of record. Therefore, the rejection stands.

Applicants also argue the starch used in the present application is different from the material disclosed in the prior art of record (Fitt et al., Kettlitz et al. and Wasserman et al.) (Pages 2-3). The Examiner respectfully submits the claims are given broadest

reasonable interpreted in light of the supporting disclosure, but not limited by the disclosure. Raw starch disclosed in the prior art of records are interpreted to be encompassed by the present application.

Regarding claims 18-38 and 40-41 rejected under 35 U.S.C. § 103(a) as being unpatentable over Wasserman et al. in view of Kettlitz et al., applicants argue the Examiner has not identified a reason that would promote one of ordinary skill in the art to combine these references (Remarks, page 3).

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

In this case, as pointed out in the previous office actions mailed on July 21, 2008 (pages 2-3), it would have been obvious to one of ordinary skill in the art at the time invention was made to combine the method of making a stabilized starch of Kettlitz with the process of improving starch's organoleptic properties taught by Wasserman, because the stabilized low-protein starch has wide applications in food and pharmaceutical industries. Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

### **Conclusion**

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YUN QIAN whose telephone number is (571)270-5834. The examiner can normally be reached on Monday-Thursday, 10:00am -4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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